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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,470	10/15/2003	Mitsutoshi Hasegawa	03560.003370	4691

5514 7590 10/20/2005

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NEW YORK, NY 10112

EXAMINER

JOHNSON, JONATHAN J

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 10/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/684,470

Applicant(s)

HASEGAWA ET AL.

Examiner

Jonathan Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 2,6,7,10-17 and 20-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,8,9,18,19 and 27-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3-18-04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I, claims 1,3-5,8-9,18-19, 27, and 28-29 in the reply filed on 9-2-05 is acknowledged. The traversal is on the ground(s) that an undue burden of search is not required. This is not found persuasive because, for example, species V would require a search in class 228/180.5, which is not required for species I.

The examiner notes applicant's concerns about being "put to the trouble and expense entailed in multiple filing and prosecution." The examine does not believe, however, that this application will require multiple filing and prosecution. As stated in the restriction requirement, " Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141." Thus, upon allowance of a generic claim, the additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim will be rejoined.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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Claims 1,3-5,8-9,18-19, 27, and 28-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicants' invention involves a "novel bonding method which can realize highly reliable bonding between members (see paragraph 16). Applicants' specification, however, does not explain the composition or materials necessary to arrive at their novel bonding method. Claims 1, 3, and 27 recite "a first member," which corresponds to a support frame (paragraph 165). While applicants' explain the composition and structure of each of the claimed components (i.e., second member at paragraph 100; underlayer at paragraph 104; glass frit at paragraph 162), applicants do not explain the composition and structure of the support frame. Furthermore, a search in EAST for a "support layer" did not provide any meaningful explanation as to its structure and composition. Because the specification does not in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, a rejection is required under 35 U.S.C. 112, first paragraph.

Claims 1,3-5,8-9,18-19, 27, and 28-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims require "a bonding agent on the underlayer" which the specification explains can be an In film (see paragraphs 167-169). The specification, however, does not explain how the indium film is attached to the underlayer except to say "by a ultrasonic soldering iron" (see

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paragraph 168). The specification does not describe how an ultrasonic solder iron can operate to deposit the indium paste to form a indium film. Figure 16 suggests applying the In paste using a squeegee, but instead calls it a "ultrasonic soldering iron." Is the soldering iron like a squeegee only it is heated to reflow the In paste? How does the ultrasonic motion help apply the In paste? Furthermore, a search in EAST for the ultrasonic solder iron did not provide any meaningful explanation as to its operation. Because the specification does not in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, a rejection is required under 35 U.S.C. 112, first paragraph.

**IF APPLICANTS SHOW THAT THEIR INVENTION COMPLIES WITH THE
ENABLEMENT REQUIREMENT, THEN THE WRITTEN DESCRIPTION
REJECTION APPLIES:**

Claims 1,3-5,8-9,18-19, 27, and 28-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicants' invention involves a "novel bonding method which can realize highly reliable bonding between members (see paragraph 16). Applicants' specification, however, does not explain the composition or materials necessary to arrive at their novel bonding method. Claims 1, 3, and 27 recite "a first member," which corresponds to a support frame (paragraph 165). While applicants' explain the composition and structure of each of the claimed components (i.e., second member at paragraph 100; underlayer at paragraph 104;

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glass frit at paragraph 162), applicants do not explain the composition and structure of the support frame. Furthermore, a search in EAST for a "support layer" did not provide any meaningful explanation as to its structure and composition. Because the specification does not in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, a rejection is required under 35 U.S.C. 112, first paragraph.

Claims 1,3-5,8-9,18-19, 27, and 28-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicants' invention involves a "novel bonding method which can realize highly reliable bonding between members (see paragraph 16). The claims require "a bonding agent on the underlayer" which the specification explains can be an In film (see paragraphs 167-169). The specification, however, does not explain how the indium film is attached to the underlayer except to say "by a ultrasonic soldering iron" (see paragraph 168). The specification does not describe how an ultrasonic solder iron can operate to deposit the indium paste to form a indium film. Figure 16 suggests applying the In paste using a squeegee, but instead calls it a "ultrasonic soldering iron." Is the soldering iron like a squeegee only it is heated to reflow the In paste? How does the ultrasonic motion help apply the In paste? Furthermore, a search in EAST for the ultrasonic solder iron did not provide any meaningful explanation as to its operation. Because the specification does not in such a way as to enable one

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skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, a rejection is required under 35 U.S.C. 112, first paragraph.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Johnson whose telephone number is 571-272-1177. The examiner can normally be reached on M-Th 7:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on 571-272-1171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jonathan Johnson
Primary Examiner
Art Unit 1725

jj